

IWOGUMOA XIEAE SP. NOV., ONE NEW CAVE-DWELLING SPECIES (ARANEAE, AMAUROBIIDAE) FROM HUNAN PROVINCE, CHINA

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Abstract One new cave dwelling *Iwogumoa* species from Hunan Province is reported: *Iwogumoa xieae* sp. nov. This new species differs from all other *Iwogumoa* by the absence of epigynal teeth and median apophysis, the presence of conductor dorsal apophysis, and the broad lateral tibial apophysis. The type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Key words Coelotinae, cave, new species, Hunan, China.

The genus *Iwogumoa* Kishida, 1955 was retrieved as a senior synonym of *Asiacoelotes* Wang, 2002 by Nishikawa & Ono (2004). A total of 16 *Iwogumoa* species are known from Russian Far East, Japan, Korea, Thailand and China, among which 6 are recorded from Chinese fauna (Platnick, 2008). In the current paper, a new cave-dwelling *Iwogumoa* species is reported based on materials collected from Hunan Province of China. The presence of large conductor lamella, elongated cymbial furrow, slender embolus in male and strongly convoluted and closely situated spermathecae in female suggests that this new species may be a member of the genus *Iwogumoa* Kishida, 1955, but the absence of epigynal teeth and median apophysis, the broad lateral tibial apophysis, and the presence of conductor dorsal apophysis suggest that this placement may be incorrect. However, there is not an appropriate genus to accommodate this new species at present, here it is tentatively placed in this genus.

Specimens were examined with an Olympus SZ11 stereomicroscope; details were studied with an Olympus BX41 compound microscope. All illustrations were made using an Olympus drawing tube. Male palps and female epigyna were examined and illustrated after being dissected from the spider bodies. All measurements were obtained using an Olympus SZ11 stereomicroscope and are given in millimeters. All the scale lines are 0.2 mm long except where indicated otherwise. Eye diameters are taken at the widest point. The total body length does not include the length of the chelicerae or spinnerets. Leg measurements are given as: total length (femur, patella + tibia, metatarsus, tarsus). The terminology used in text and figure legends follows Wang (2002).

Abbreviations used in text and legends: ALE = anterior lateral eye; AME = anterior median eye; AME-ALE = distance between AME and ALE; AME-AME = distance between AME and AME; ALE-PLE = distance

between ALE and PLE; C = conductor; CF = cymbial furrow; E = embolus; EB = embolic base; FD = fertilization duct; LTA = lateral tibial apophysis; PA = patellar apophysis; PLE = posterior lateral eye; PME = posterior median eye; PME-PLE = distance between PME and PLE; PME-PME = distance between PME and PME; RTA = retrolateral tibial apophysis; S = spermatheca; ST = subtegulum; T = tegulum; TS = tegulum sclerite.

All types are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS). Type specimen photos of the species included in this paper will be viewed from website <http://www.ChineseSpecies.com> which was created and maintained by LI Shu Qiang & WANG Xir Ping (Li & Wang, 2008).

Iwogumoa xieae sp. nov. (Figs. 1–6)

Type material. Holotype male, China, Hunan Province, Lengshuijiang City, Zhonglian Town, Boyue Cave (27°42' N, 111°27' E), 2 Dec. 2007, leg. LI Shu Qiang, LIN Yur Cheng and LIU Jie. Paratypes: 3 males and 7 females, data as holotype; 2 males and 12 females, China, Hunan Province, Lengshuijiang City, Zhadu Town, Zhadu Village, Jiumen Cave (27°44' N, 111°33' E), 1 Dec. 2007, leg. LI Shu Qiang, LIN Yur Cheng and LIU Jie; 12 males and 22 females, China, Hunan Province, Lengshuijiang City, Panqiao Town, Xianqi Cave (27°38' N, 111°24' E), 1 Dec. 2007, leg. LI Shu Qiang, LIN Yur Cheng and LIU Jie; 2 females, China, Hunan Province, Xinhua County, Youxi Town, Meishanlong Cave (27°56' N, 111°16' E), 30 Oct. 2007, leg. LI Shu Qiang, LIN Yur Cheng and LIU Jie.

Etymology. The specific name is dedicated to Miss XIE Li-Yan for her kind help on our cave collection in Hunan Province; noun (name) in apposition.

Diagnosis. Male of *I. xieae* sp. nov. can be easily

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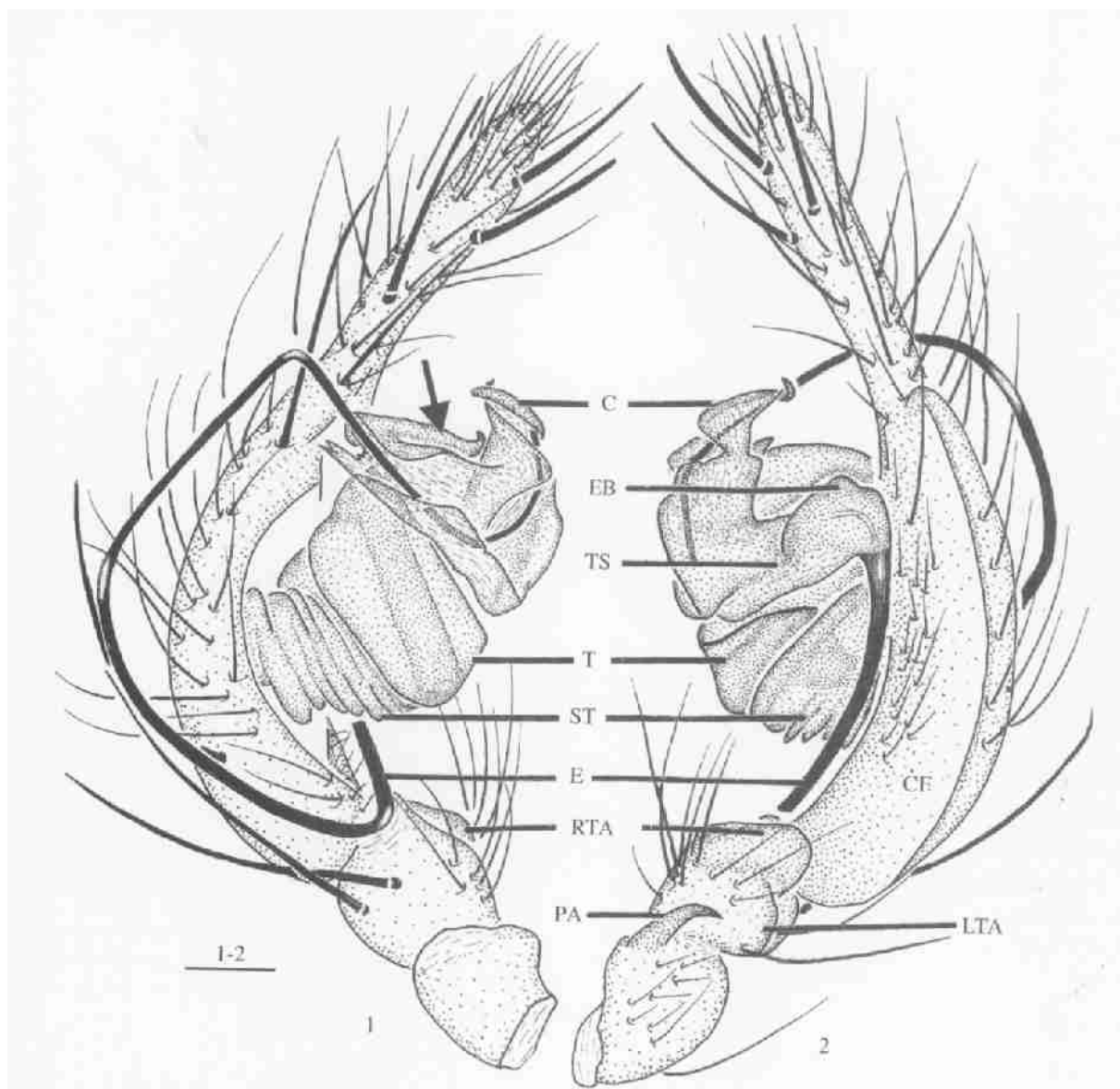
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distinguished from other *Iwogumoa* species by the broad lateral tibial apophysis, the retrolaterally originating embolus, the absence of median apophysis and the presence of conductor dorsal apophysis. Female can be distinguished from other *Iwogumoa* species by the absence of epigynal teeth.

Description of male (holotype). Total length 6.45. Prosoma length 2.70, width 2.00; opisthosoma length 3.75, width 2.50. Eye measurements: AME 0.11; ALE 0.14; PME 0.15; PLE 0.15; AME-AME 0.03; AME-ALE 0.01; ALE-PLE 0; PME-PME 0.06; PME-PLE 0.05. PLE and ALE close together. Clypeus height 0.23. Leg formula: IV, I, II, III; leg measurements: I: 13.40 (3.50, 4.25, 3.40, 2.25); II: 12.30 (3.15, 3.90, 3.15, 2.10); III: 11.80 (3.00, 3.60, 3.30, 1.90); IV: 15.45 (3.80, 4.60, 4.65, 2.40). Chelicerae with three promarginal and two retromarginal

teeth. Patellar apophysis long, slender, with slightly curved apex; RTA almost as broad as tibia, extending about half of tibial length; lateral tibial apophysis broad; cymbial furrow longer than half of cymbial length, with the distal end widely separated from the cymbium; conductor large, wide proximally, slender and curved distally, conductor dorsal apophysis long, slender; median apophysis absent; tegulum sclerite small; embolus long, coiled, originating retrolaterally, from about 2 o'clock position (Figs. 1-3, 6).

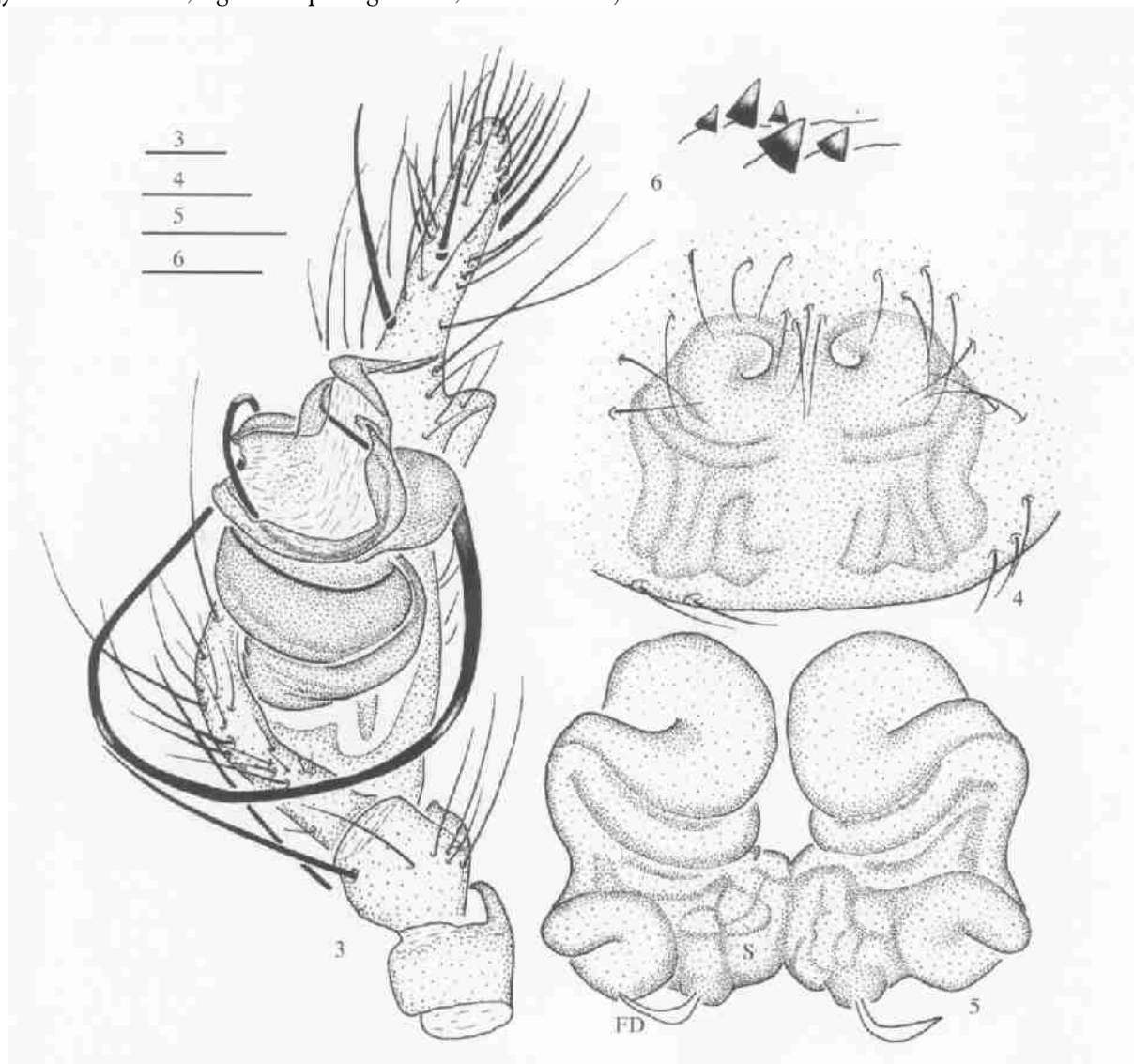
Female. Measurements (one of female paratypes). Total length 6.30. Prosoma length 3.00, width 2.15; Opisthosoma length 3.30, width 2.15. Eye measurements: AME 0.10; ALE 0.15; PME 0.14; PLE 0.15; AME-AME 0.05; AME-ALE 0.03; ALE-PLE 0.01; PME-PME 0.11; PME-PLE 0.09. Clypeus height 0.20. Leg formula: IV, I, II, III; leg measurements:



Figs 1-2. *Iwogumoa xiaei* sp. nov. 1. Left male palp, prolatral view (arrow to the conductor dorsal apophysis). 2. Same, retrolateral view.

I 12.55 (3.25, 4.10, 3.00, 2.20); II 11.45 (3.25, 3.35, 2.85, 2.00); III 11.00 (2.75, 3.50, 3.00, 1.75); IV 14.65 (3.75, 4.50, 4.25, 2.15). Chelicerae with three promarginal and two retromarginal teeth. Epigynal teeth absent; genital openings small, almost

rounded, situated anteriorly, and separated by a moderately wide septum; copulatory ducts indistinct; spermathecal heads invisible; spermathecae long, broad, strongly convoluted, and situated close together (Figs 4-5).



Figs 3-6 *Iwogumai xieae* sp. nov. 3. Left male palp, ventral view. 4. Female epigynum, ventral view. 5. Female vulva, dorsal view. 6. Male cheliceral teeth, ventral view.

Distribution. China (Hunan).

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中国湖南隙蛛亚科亚隙蛛属洞穴一新种记述 (蜘蛛目, 暗蛛科)

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摘 要 描述了采自洞穴的隙蛛亚科蜘蛛 1 新种: *Iwogumoa xieae* sp. nov., 本种与同属其它种类的区别在于: 生殖齿和中突缺失, 具有明显的引导器背突, 并且侧胫节突宽大。

谢氏亚隙蛛, 新种 *Iwogumoa xieae* sp. nov. (图 1~ 6)
正模 ♂, 副模 3 ♂ ♂, 7♀ ♀, 湖南省冷水江市中连乡波月洞, 2007 年 11 月 2 日, 李枢强、林玉成和刘杰采; 副模 2 ♂ ♂, 12♀ ♀, 湖南省冷水江市渣渡镇渣渡村九门洞, 2007

年 11 月 1 日, 李枢强、林玉成和刘杰采; 副模 12 ♂ ♂, 22♀ ♀, 湖南省冷水江市潘桥乡仙憩洞, 2007 年 11 月 1 日, 李枢强、林玉成和刘杰采; 副模 2♀ ♀, 湖南省新化县油溪乡高桥村梅山龙洞, 2007 年 11 月 2 日, 李枢强、林玉成和刘杰采。

词源: 新种种名取自谢立言女士的姓氏, 感谢她对我们 在湖南地区洞穴蜘蛛采集工作的大力支持。

关键词 隙蛛亚科, 洞穴, 新种, 湖南, 中国.
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